

That which is claimed is:

1. A diagnostic composition for diagnosis and/or visualization of wounded or inflamed tissue or a disease associated therewith, comprising:

a microorganism or cell containing a DNA sequence encoding a detectable protein or a protein capable of inducing a detectable signal.

2. A pharmaceutical composition for the treatment of wounded or inflamed tissue or a disease associated therewith, comprising:

a microorganism or cell containing a DNA sequence encoding a detectable protein or a protein capable of inducing a detectable signal and at least one expressible DNA sequences encoding (a) protein(s) suitable for the therapy of wounded or inflamed tissue or a disease associated therewith.

3. The diagnostic composition according to claim 1, wherein the protein capable of inducing a detectable signal is a member selected from the group consisting of a luminescent and a fluorescent protein.

4. The pharmaceutical composition according to claim 2, wherein the protein capable of inducing a detectable signal is a member selected from the group consisting of a luminescent and a fluorescent protein.

5. The diagnostic composition according to claim 1, wherein the protein capable of inducing a detectable signal is a member selected from the group consisting of luciferase, RFP and GFP.

6. The pharmaceutical composition according to claim 2, wherein the protein capable of inducing a detectable signal is a member selected from the group consisting of luciferase, RFP and GFP.

7. The diagnostic composition according to claim 5, wherein the microorganism or cell additionally contains a gene encoding a substrate for a luciferase.

8. The pharmaceutical composition according to claim 6, wherein the microorganism or cell additionally contains a gene encoding a substrate for a luciferase.

9. The diagnostic composition according to claim 1, wherein the protein capable of inducing a detectable signal is a protein selected from the group consisting of: a protein that can induce a signal detectable by magnetic resonance imaging (MRI), a protein having the ability to bind a contrasting agent for visualization of tissue, a protein having the ability to bind a chromophore for visualization of tissue and a protein having the ability to bind to a ligand required for visualization of tissues.

10. The pharmaceutical composition according to claim 2, wherein the protein capable of inducing a detectable signal is a protein selected from the group consisting of: a protein that can induce a signal detectable by magnetic resonance imaging (MRI), a protein having the ability to bind a contrasting agent for visualization of tissue, a protein having the ability to bind a chromophore for visualization of tissue and a protein having the ability to bind to a ligand required for visualization of tissues.

11. The diagnostic composition according to claim 1, wherein the microorganism is a member selected from the group consisting of: a bacterium and a virus.

12. The pharmaceutical composition according to claim 2, wherein the microorganism is a member selected from the group consisting of: a bacterium and a virus.

13. The diagnostic composition according to claim 11, wherein the virus is Vaccinia virus.

14. The diagnostic composition according to claim 11, wherein the bacterium is a member selected from the group consisting of: an attenuated Salmonella

thyphimurium, an attenuated *Vibrio cholerae*, an attenuated *Listeria monocytogenes* and *E. coli*.

15. The pharmaceutical composition according to claim 12, wherein the bacterium is a member selected from the group consisting of: an attenuated *Salmonella thyphimurium*, an attenuated *Vibrio cholerae*, an attenuated *Listeria monocytogenes* and *E. coli*.

16. The diagnostic composition according to claim 1, wherein the cell is a mammalian cell.

17. The pharmaceutical composition according to claim 2, wherein the cell is a mammalian cell.

18. The diagnostic composition according to claim 16, wherein the mammalian cell is selected from the group consisting of: an autologous and heterologous stem cell.

19. The pharmaceutical composition according to claim 17, wherein the mammalian cell is selected from the group consisting of: an autologous and heterologous stem cell.

20. The pharmaceutical composition according to claim 2, wherein the protein suitable for the therapy of wounded or inflamed tissue or a disease associated therewith is selected from the group consisting of: an enzyme causing cell death and an enzyme causing the digestion of debris.

21. The diagnostic composition according to claim 1, wherein the disease is a member selected from the group consisting of: endocarditis, pericarditis, inflammatory bowel disease, low back pain (herniated nucleus pulposus), temporal arteritis, polyarteritis nodosa and an arthritic disease.

22. The pharmaceutical composition according to claim 2, wherein the disease is a member selected from the group consisting of: endocarditis, pericarditis, inflammatory bowel disease, low back pain (herniated nucleus pulposis), temporal arteritis, polyarteritis nodosa and an arthritic disease.

23. The diagnostic composition according to claim 1, wherein the disease is an atherosclerotic disease.

24. The pharmaceutical composition according to claim 2, wherein the disease is an atherosclerotic disease.

25. The diagnostic composition according to claim 1, wherein the disease is selected from the group consisting of; coronary artery disease, peripheral vascular disease and cerebral artery disease.

26. The pharmaceutical composition according to claim 2, wherein the disease is selected from the group consisting of; coronary artery disease, peripheral vascular disease and cerebral artery disease.

27. The diagnostic composition according to claim 1, wherein the diagnosis and/or visualization is carried out by MRI.

28. The pharmaceutical composition according to claim 2, wherein the diagnosis and/or visualization is carried out by MRI.

29. The pharmaceutical composition according to claim 2, wherein the expressible DNA sequences are on a BAC, MAC, cyber cell or cyber virus.

30. The diagnostic composition according to claim 1, wherein the DNA sequence is under the control of an inducible promoter.

31. A method comprising

- a) introducing the diagnostic composition according to claim 1 into a subject;
- and
- b) monitoring the diagnostic composition by a method selected from the group consisting of
  - i) monitoring the efficacy of an antibiotic regimen;
  - ii) evaluating the resistance of a suture to bacterial colonization; or
  - iii) evaluating the resistance of an implantable material to bacterial colonization.

32. A method for diagnosis and/or visualization of wounded or inflamed tissue or a disease associated therewith, the method comprising:

- a) introducing into a microorganism or cell a DNA sequence encoding a detectable protein or a protein capable of inducing a detectable signal;
- b) introducing the microorganism or cell into a subject; and
- c) monitoring the detectable protein or a protein capable of inducing a detectable signal in the subject.